



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Washington Fish and Wildlife Office

Central Washington Field Office

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APR 30 2018

In Reply Refer To:

01EWF00-2018-I-0936

Hydrologic Unit Code: Twisp-Buttermilk (170200080506); Lower Methow-Libby (170200080701)

Michael C. Liu
Methow Valley Ranger District
Okanogan-Wenatchee National Forest
24 West Chewuch Road
Winthrop, Washington 98862

Dear Mr. Liu:

This letter responds to your request for initiation of informal consultation on the Mission Restoration Project (Project), located within the Libby Creek and Buttermilk drainages, near the towns of Carlton and Twisp in Okanogan County, Washington. The meeting of the Level 1 Team to discuss this Project as part of the section 7 streamlining process occurred on February 22, 2018, and on April 6, 2018, the U.S. Fish and Wildlife Service (Service) received your cover letter requesting concurrence with the determinations of "may affect, not likely to adversely affect" for the bull trout (*Salvelinus confluentus*) and its designated critical habitat, the northern spotted owl (*Strix occidentalis caurina*) and its designated critical habitat, the gray wolf (*Canis lupus*), the grizzly bear (*Ursus arctos horribilis*), and the Canada lynx (*Lynx canadensis*) and its designated critical habitat, in accordance with section 7(a)(2) of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*). The submittal of the final wildlife and fisheries Biological Assessment (BA) accompanied by your cover letter, addressed all of the comments from the Level 1 streamlining meeting and subsequent discussions in sufficient detail to allow the Service to complete informal consultation on the effects from the action to the above mentioned species. A complete record of this consultation is on file at the Central Washington Field Office in Wenatchee, Washington.

Consultation Pathway

As we discussed during the Level 1 Team meeting on February 22, 2018, we are completing consultation under the Act using a combination of two consultation pathways. The Project includes aquatic restoration actions (Table 1) and upland vegetation treatments with road improvements (Table 2). The Forest Service determined that the aquatic restoration actions are

independent, and not interrelated or interdependent, of the upland treatments, and as such the Forest Service will complete consultation for bull trout and its critical habitat using the Programmatic Biological Opinion for Aquatic Restoration Activities in the States of Oregon, Washington, and Portions of California, Idaho, and Nevada (ARBO II) (FWS reference 01EOFW00-2013-F-0090). This letter completes informal consultation for all listed terrestrial species named above for all Project activities (Table 1 and Table 2), informal consultation for bull trout and its critical habitat for upland activities described in Table 2, and a technical assistance response to the actions that fall under ARBO II (Table 1) for the bull trout and its critical habitat.

Concurrence with ARBO II Activities for Bull Trout and its Critical Habitat

The Level 1 Team determined that the activities in Table 1 (below) are consistent with the **Road and Trail Erosion Control and Decommissioning, Riparian Vegetation Treatment, Fish Passage Restoration, Large Wood, and Beaver Habitat Restoration** aquatic restoration activity categories as well as general design criteria and conservation measures in ARBO II. Standard procedures for using ARBO II will be followed for each Project activity as it is implemented, including engagement of the Restoration Review Team as needed, monitoring, and submission of project notifications and completion reports. The Service recognizes that ARBO II submissions associated with this Project will likely continue for 10 years as funding for planned restoration activities becomes available.

Action Area

The Action Area for bull trout and the northern spotted owl includes the Buttermilk and Libby Creek HUC 12 subwatersheds. The Action Area for wide ranging carnivores varies and includes analysis units that approximate individual species home ranges described as Bear Management Units (BMUs) for gray wolves and grizzly bear, and Lynx Analysis Units (LAUs) for Canada lynx.

Project Description

The Project proposes vegetation and aquatic restoration activities in the Libby Creek and Buttermilk Creek drainages to promote landscape resilience to disturbances such as wildfire and changing climates by reducing wildfire hazards in the wildland urban interface, restoring aquatic habitat, and managing the reestablishing the existing transportation system in these 12th field subwatersheds (HUC 12, hydrologic unit code). Proposed actions include commercial timber harvest, non-commercial thinning, various fuel and prescribed fire treatments, various road treatments, adding wood to streams, and enhancing beaver release sites. Table 1 includes the list of proposed actions aimed at restoring aquatic processes in the action area.

Table 1. Mission Restoration Project – ARBO II Activities

Project Activity	Description
Prescribed Fire	Riparian Vegetation Treatment (Controlled Burning): Riparian Underburning (274 acres)
Soil Restoration	Road and Trail Erosion Control and Decommissioning: Tilling compacted surfaces to reestablish native vegetation in riparian reserves (468 acres)
Culvert Replacement	Fish Passage Restoration: Replace passage barrier culverts on fish-bearing streams (8 culverts)
	Road and Trail Erosion Control and Decommissioning: Replace undersized culverts on non-fish-bearing streams (15 culverts)
Beaver Habitat Enhancement	Beaver Habitat Restoration: Enhance and protect areas for future beaver utilization (8 locations)
West Fork Buttermilk Bridge Replacement	Fish Passage Restoration (Replacing culverts or bridges with properly sized culverts and bridges): Replace a road bridge across West Fork Buttermilk Creek to restore motorized access
Coarse Woody Debris (CWD)	Large Wood (LW): Restore deficient levels of instream wood in fish-bearing streams (10 miles)
Rock Armoring	Road and Trail Erosion Control and Decommissioning: Apply rock to road surface at 33 road stream crossings.
Road Closure/Decommissioning	Road and Trail Erosion Control and Decommissioning: Hydrologic storage (23 miles)/Decommissioning (25 miles)
Road to ML2 Admin Closed	Road and Trail Erosion Control and Decommissioning: Storm-proof 2.9 miles of road and close to public use. Administrative use will be permitted.
Road to stock trail	Road and Trail Erosion Control and Decommissioning: Road decommissioned with small, non-motorized cattle trail constructed (1.3 miles).
Drivable Ford Conversion	Road and Trail Erosion Control and Decommissioning: Intermittent, fishless streams (4 stream crossings)

Table 2 lists actions proposed in the action area that are aimed at restore the ecological processes, patterns, and functions of the vegetative landscape.

Table 2. Mission Restoration Project – Non-ARBO II Activities.

Treatment Type	Description	Amount
Non-Commercial Thinning	Timber Stand Improvement	1,737 acres
	Wetland Thin	22 acres
	Ladder Fuel Reduction Thin (outside of commercial thinning units)	6,501 acres
	Post and Pole Thin	36 acres
	Conifer Girdling & Thin for Aspen Restoration	72 acres
	<u>Subtotal Non-Commercial Thinning</u>	<u>8,367 acres</u>
Commercial Thinning	Aspen Release Thin	160 acres
	Moist Forest Thin	69 acres
	Dry Forest Restoration Thin	1,280 acres
	Dry Forest Restoration – Dwarf Mistletoe Thin	285 acres
	Variable Retention Regeneration (VRR) and post-harvest tree planting	59 acres
	<u>Subtotal Commercial Thinning</u>	<u>1,853 acres</u>
Tree Planting	In the VRR units	59 acres
Prescribed Fire	Hand-piling and pile burning	2,901 acres
	Machine-piling and pile burning	701 acres
	Underburning (upland burning)	7,361 acres
	Landing pile burning	179 landing piles
	<u>Subtotal Prescribed Fire</u>	<u>10,220 ac</u>
Road Maintenance/Reconstruction	Surface blading, ditch cleaning, road surface reconstruction	51.1/15 miles
Log Hauling	Summer/Winter Hauling	55.7 miles
Opening Closed Roads	System/Non-System Roads	20.4 miles
New Temporary Roads	New Construction	1.2 miles
Adjust Rd Maintenance Levels	Upgrades and downgrades	22.7 miles
Adding Unauthorized Roads	Open/Closed roads	3.5 miles
Road Closure/Decommissioning	Roads used for log hauling and done by purchaser	12.0/7.1 miles
Road to Stock Trail	Roads decommissioned, converted to non-motorized cow trail	0.7 miles
Road to ML2 Admin Closed	Roads used for log hauling and done by purchaser	12.54 miles

Methods for commercial harvest include summer and winter season ground-based yarding systems. All non-commercial treatments will be accomplished by hand (chainsaws and hand piles). Prescribed fire treatments are proposed to reduce commercial and non-commercial activity slash and natural fuel accumulations. Prescribed fire methods include hand ignition with drip torch or ignition from the air utilizing a heli-torch or plastic sphere dispenser. Associated with prescribed fire would be approximately 2.6 miles of new dozer line (three to five feet wide) and 30 miles of new hand fireline (up to 18 inches wide) construction for containment. Adaptive management strategies for fuel reduction accessible by open roads include mechanical chipping

and firewood collection. Additional adaptive management may include machine piling and burning approximately 1,028 acres originally prescribed for underburning.

Transportation system actions associated with vegetation management include pre-haul maintenance, re-opening or reconstructing closed roads, and construction of temporary roads for commercial haul routes. Temporary road construction will be followed by decommissioning within the same season harvest activities are completed. Post-haul road activities include long-term road maintenance level conversions including maintenance level 1 (ML-1) hydrologic storage, road decommissioning, upgrading road ML's, and road conversion to livestock trails. There will be a slight increase in open roads during vegetation management activities for up to five years, followed by a decrease once all project activities are complete (Table 3).

The Project also includes Best Management Practices (BMPs) and Project Design Features (PDFs) that, together, will likely be effective in reducing effects of the Project on listed species and their habitats. For a more detailed description of the proposed action and BMPs, refer to the Project BA.

The Project is expected to begin in the summer of 2018 and activities will occur across the action area at various times over a period of ten years (Table 3).

Table 3. Project timeline. Dark boxes indicate definite treatment years and grey boxes are estimates of when treatment will occur.

Treatments		Implementation Year									
		1	2	3	4	5	6	7	8	9	10
Non-ARBO II Treatments	Road Maintenance/Reconstruction										
	Rock Armoring (Mitigation)										
	Opening Closed Roads										
	New Temporary Roads										
	Commercial Thinning/Log Haul										
	Prescribed Fire										
	Non-commercial Thinning										
	Wetland Thin										
ARBO II Treatments	Controlled Burning (Riparian Underburning)										
	Culvert Replacement										
	Beaver Site Enhancement										
	Drivable Ford Conversion										
	Rock Armoring										
	Soil Restoration										
	Coarse Woody Debris (CWD)										
	Road Closure/Decom/Road to Stock Trail										
	WF Buttermilk Creek Bridge										

Effects on the Bull Trout and its Critical Habitat

All populations in the Columbia River Distinct Population Segment (DPS) were listed as threatened under the Act in June of 1998 (63 FR 3 1647), followed by a coterminous United States listing in 1999 (64 FR 58910).

The bull trout is threatened by the combined effects of habitat degradation, fragmentation and alterations associated with: dewatering, road construction and maintenance, mining, and grazing;

the blockage of migratory corridors by dams or other diversion structures; poor water quality; incidental angler harvest; entrainment (a process by which aquatic organisms are pulled through a diversion or other device); and introduced non-native species (64 FR 58910).

There are currently ten local populations of bull trout distributed throughout the Methow subbasin. Based on redd counts, many of these populations are decreasing or stable at low abundances. The Twisp River local population is one of two in the Methow Core Area that is currently stable at moderate to high abundance. The Twisp River supports migratory and resident bull trout. In the action area, bull trout are documented in Buttermilk Creek from the mouth to a natural barrier in East Fork Buttermilk Creek at river mile (RM) 3.0 and up to RM 9.0 in West Fork Buttermilk Creek. Spawning occurs in East Fork Buttermilk and West Fork Buttermilk creeks. Limited bull trout use has been documented in Libby Creek up to RM 6.7. For this analysis we assume that Libby Creek provides foraging and over-wintering habitat for the local populations in the Methow Core Area.

The primary mechanisms through which non-ARBO II project activities may potentially affect bull trout and their habitat are from increased stream temperature, reduced large wood recruitment, and increased sediment delivery in Buttermilk Creek and Libby Creek.

The project proposes to alter vegetation density, structure, and composition within designated riparian reserves (USDA and USDI 1994, USFS 1995a, USFS 1995b) through commercial and non-commercial thinning treatments. Commercial harvest is proposed within 52 acres of riparian reserves in the action area, and non-commercial thinning is proposed within 668 acres. No treatment buffers are proposed for commercial harvest units within 100 feet of perennial streams and 50 feet of intermittent streams. No new or existing landings will be located within any of these no-treatment buffers. Similarly, yarding is not proposed within these no-treatment buffers with the exception of one skid trail that will cross Elderberry Creek, an intermittent stream, during winter harvest operations. Proposed no treatment buffers for non-commercial thinning activities are variable based on adjacent slopes, but would not be less than 50 feet for perennial streams and 25 feet for intermittent streams. Activity slash from commercial and non-commercial treatments will be hand and/or machine piled outside of the no treatment buffers, and burned after one season of curing. Proposed adaptive management strategies for reducing natural and project-generated fuel will adhere to the no treatment buffers, described above and in the Project BA.

The Service believes that the 100 foot no treatment buffer prescribed for commercial harvest and associated fuels treatments along perennial stream channels in the action area's riparian reserves are sufficient to provide shade for temperature regulation, a source for large wood recruitment, and also sufficient distance to filter sediment that may mobilize from the treatment sites and yarding methods. These buffers are equal to the height of large and mature trees in the action area and therefore are expected to maintain the temperature regulation, large wood recruitment, and sediment filtering processes that riparian reserves provide. Non-commercial harvest and associated fuel treatments within 50 feet of perennial streams and 25 feet of intermittent streams has the potential for both negative and positive effects. Solar radiation to the stream channel may increase from the removal of vegetation from thinning and subsequent pile burning. Similarly, the distance to the stream channel for riparian vegetation to filter sediment and

nutrients is reduced. In the longer term, the growth of the residual trees and potential large wood recruitment is likely to accelerate in response to the thinning, providing a benefit to riparian and stream channel processes. The Service expects that any increase in stream temperature will be localized and insignificant to bull trout in the Buttermilk and Libby subwatersheds. Similarly, significant reductions in large wood recruitment or increases in erosion and sediment mobilization to bull trout occupied habitat are not anticipated due to sufficient distance separation from occupied bull trout habitat and the relatively small proportion of riparian reserves affected in the Libby and Buttermilk HUC12s (15 and 11 percent, respectively).

Proposed road management activities include pre and post project road maintenance on haul routes, log haul, heavy maintenance or road reconstruction to open roads for log haul, temporary road construction, long-term storage or decommissioning of roads, administratively closing roads (e.g. stormproof), and road maintenance level adjustments (assigning ML to unauthorized roads, and upgrading/downgrading MLs). There is a potential for increased stream temperature and reduced large wood recruitment from road reconstruction and decommissioning activities. In the Buttermilk HUC12, there will be minimal (approximately 500 feet total) riparian vegetation disturbance associated with reconstructing closed roads and decommissioning roads. Additionally, 0.5 miles of road within riparian reserves will be put into long-term storage at the conclusion of commercial harvest activities, allowing vegetation to grow until the road is needed in the future. In the Libby HUC 12, 2.1 miles of road within riparian reserves will be reconstructed for log haul and decommissioned at the conclusion of harvest activities. An additional 635 feet of road within riparian reserves will be put into long-term storage. There is no temporary road construction proposed within riparian reserves in the Buttermilk and Libby subwatersheds. The Service expects that any impacts to stream temperature or large wood recruitment from these road activities will be localized and insignificant to bull trout in the Buttermilk and Libby subwatersheds due to the limited amount of disturbance in the Buttermilk HUC12, and the spatial distance (50 to 250 feet) from streams in the Libby HUC12.

Log haul activities may increase sediment delivery to streams, particularly where roads are in close proximity to streams and are hydrologically connected through road ditchlines and stream crossings. Log haul will occur on 19 miles with 12 stream crossings in the Buttermilk HUC12, of which 2.4 miles are native-surfaced and located within riparian reserves. Pre and post haul maintenance activities described in the Project BA and the associated best management practices (BMPs) are expected to minimize sediment delivery to stream channels during use and maintenance activities. If any fine sediment is captured by streams and transported, it will likely be in very small quantities and will not result in any significant increases in fine sediment where bull trout are present. Road decommissioning and an administrative closure of a ML-2 road will remove a total of three stream crossing culverts and has the potential to mobilize and deliver fine sediment to streams occupied by bull trout. The Service believes that culvert removal BMPs coupled with natural wetland filtering between the culvert removal sites and bull trout habitat will result in insignificant effects. In the Libby HUC12, log haul will occur on 37 miles and across 19 road stream crossings. Twelve miles of road will be reconstructed/opened for log haul, of which two miles with six stream crossings are located in riparian reserves. Road maintenance BMPs to reduce sediment mobilization and delivery to stream channels include road grading, ditch and cross drain cleaning, and rock armoring six road stream crossings across occupied habitat. The Forest Service expects an 80 percent reduction in fine sediment mobilization at each

stream crossing that is armored with rock; we expect this, coupled with road grading, ditch maintenance, and winter haul over other road stream crossings in proximity to occupied habitat will not result in any significant increases in fine sediment where bull trout are present. Seven road stream crossings will be removed when roads are decommissioned/stored at the completion of commercial haul activities. Six of these culverts are located greater than 0.5 miles from occupied habitat, and sediment generated by removal is expected to dissipate prior to mixing with streams occupied by bull trout. One crossing, located 0.44 miles from fish habitat, occurs on a perennial tributary to an intermittent segment of Mission Creek. BMPs will include dewatering the work site, setting straw bales in the creek below, and working during the approved instream work window to minimize the amount of sediment generated and delivered to North Fork Libby Creek. The Service expects some sediment to mobilize and transport downstream, however BMPs and spatial distance are expected to result in insignificant increases downstream in occupied habitat. Overall, harvest related road decommissioning, storm-proofing, and rock armoring will result in small net reductions in sediment delivery in the action area.

Bull Trout Critical Habitat

The Service published a final critical habitat designation for the coterminous United States population of the bull trout on October 18, 2010 (75 FR 63898), replacing the previous final critical habitat designation published in 2005; the 2010 final rule became effective on November 17, 2010. Bull trout Designated Critical Habitat within the Action Area includes Buttermilk Creek, East Fork Buttermilk Creek, and West Fork Buttermilk Creek which contains essential spawning and rearing habitat for the Twisp River local population (USFWS 2010).

The effects of the proposed action on designated bull trout critical habitat are evaluated in terms of the physical and biological features comprised of nine primary constituent elements (PCE's).

PCE 1 – Groundwater and subsurface water connectivity to contribute to water quality and quantity. BMPs such as winter logging or its equivalent, no treatment areas in riparian reserves, and road decommissioning and stormproofing will minimize project effects to ground and subsurface water connections. We do not expect any significant effects to this PCE as a result of Project activities

PCE 2 – Minimal physical and biological barriers between FMO and SR habitat. The Project does not propose the removal or addition of any physical barriers in critical habitat and is not expected to impact migratory corridors.

PCE 3 – Food base. The amount of sediment that may be generated or canopy cover that may be removed as a result of Project activities is not expected to significantly affect the prey base for bull trout.

PCE 4 – Complex habitats. The amount of sediment that may be generated or canopy cover that may be removed as a result of Project activities is not expected to significantly affect complex habitat in the Buttermilk and Libby subwatersheds.

PCE 5 – Water temperature. No treatment buffers in riparian reserves are expected to provide thermal regulation. We do not expect any significant effects to this PCE as a result of Project activities

PCE 6 – Spawning and rearing substrate. Project activities in the Buttermilk HUC12 are located downstream of spawning and rearing habitat, and bull trout do not spawn or rear in Libby HUC 12, therefore the small amount of sediment that may be generated as a result of Project activities will have no effect on spawning and rearing habitat for local populations in the Methow core area.

PCE 7 – Natural hydrograph. Vegetation and road treatments will not alter the hydrographs in the Buttermilk and Libby HUC12s.

PCE 8. Water quantity and quality. No changes to water quantity are expected. The amount of sediment that may be generated or canopy cover that may be removed as a result of Project activities is not expected to significantly affect water quality.

PCE 9. Non-native fish species. Project activities are not expected to measurably affect instream temperature or habitat elements that would modify the spatial or temporal distribution of non-native fishes in the Buttermilk or Libby subwatersheds.

Effects on the Northern Spotted Owl and its Critical Habitat

An estimated 82,115 acres of spotted owl habitat is present in forested areas of Okanogan County on the Okanogan-Wenatchee National Forest, ranging west from the Chewuch River and south to the Forest boundary. Spotted owls use late successional, old mixed conifer habitat for nesting, roosting, foraging and dispersal habitat, generally in mesic areas, although nest sites in dry Douglas-fir and ponderosa pine stands are used. The Forest Service analysis for this Project determined that currently there are 1,054 acres of nesting, roosting, foraging habitat (NRF), and 4,113 acres of dispersal habitat in the action area, amounting to 3.3 percent and 13 percent of the action area, respectively. Northern spotted owl surveys are current for the Project area with no detections in the action area. Spotted owls have not been detected in or near the action area since 1995.

Direct effects to spotted owls could occur due to noise, smoke, and visual stimuli generated by Project activities. Given that the nearest known nesting sites are greater than four miles distant from the action area, suitable NRF habitat in the action area is extremely limited and of marginal quality, and activity has not been documented for more than 20 years in or near the action area, the Service expects Project activities will have a discountable likelihood of resulting in direct disturbance to spotted owls.

The Project also has the potential to produce indirect effects associated with activities within suitable habitat. Across the entire Project area, about 296 acres of marginal NRF habitat will be degraded by simplifying stand structure, and 1,756 acres of dispersal habitat will be degraded by opening the canopy. Regeneration harvest will remove 35 acres of dispersal habitat. Commercial harvest prescriptions will emphasize retention of large trees (greater than or equal to

21 inches dbh), clumps of large trees, snags and defective trees, and canopy closure of 60 percent or greater where it currently exists. There are no activity centers in the action area.

The Service expects temporary, insignificant negative and beneficial effects from Project activities. Habitat degradation is minimal and will provide temporary beneficial effects by reducing the susceptibility of existing and developing habitat removal by wildfire. Proposed minor effects on vegetation structure are unlikely to influence behavior or patterns of habitat use by spotted owls or their prey.

Spotted Owl Critical Habitat

Critical habitat subunit ECN1 is west of and adjacent to the Mission action area. There is a slight (2.8 acres) overlap of the subunit on the northwestern boundary of the action area. This 2.8 acres is non-habitat (NRF or dispersal) and is within a proposed underburn only treatment. The underburn treatment is proposed to reduce surface fuels with some minor tree scorching expected. The likelihood for adverse effects to critical habitat in subunit ECN1 is extremely unlikely to occur and discountable.

Effects on the Gray Wolf

Gray wolves are wide-ranging predators that can exist in a variety of habitat types. Although roads do not create physical barriers to dispersal, they usually increase human presence and the likelihood of negative interactions such as traffic mortalities, human-caused mortalities, habituation, and reduced ungulate prey. Security habitat for gray wolves is considered to be home ranges with less than one mile of road per square mile of habitat. Security habitat in the action area currently comprises 63.3 percent of the Upper Twisp River BMU and 44.5 percent of the Libby BMU.

Project activities are located within the home range territory of the Lookout Pack. Gray wolves and a rendezvous site are documented in the action area, but no den sites have been found. Wolves are fairly tolerant of human disturbance, with the exception of the denning and rendezvous period when pups are less mobile and pack activity is centered at or near the den or rendezvous site (Wiles et. al. 2011). If a den or rendezvous site is discovered at any time during the Project timeline, timing restrictions for activities within proximity to a den or rendezvous site will be employed to reduce the potential for disturbance to discountable levels.

Disturbance of gray wolves or their ungulate prey could potentially occur due to human activity, noise, and smoke associated with Project activities. Disturbance stimuli are likely to occur at various times across the action area. We expect gray wolves will avoid project activities by moving to adjacent areas where stimuli are imperceptible, limiting disturbance effects to short-term and insignificant levels. Post-harvest road decommissioning, estimated to be completed in 2027, will slightly increase security habitat for gray wolves in the Upper Twisp (0.2 percent) and Libby Creek (1.5 percent) BMUs.

Disturbance of ungulate prey species is more likely. Deer are found across the project area, year-round, and provide a prey base. During Project activities, we expect prey species in the Project area will avoid noise and human disturbance and that the physiological costs associated with avoidance will not result in changes in survivorship or reproductive success that could influence

the availability of prey for gray wolves. Project activities will produce minor benefits for the gray wolf prey base by increasing deer forage as a result of commercial harvest and prescribed fire activities, and road decommissioning will improve security habitat.

The potential for temporary displacement and minor habitat alteration in the Project area is likely to be insignificant to the survival, reproduction or distribution of the gray wolf.

Effects on the Grizzly Bear

Grizzly bears are wide-ranging omnivores that use a variety of plant and animal foods. Important seasonal foraging areas for the grizzly bear include riparian areas, wetlands, berry fields, avalanche chutes and ungulate winter ranges. Security habitat (core areas) for the grizzly bear is considered to be undisturbed habitat greater than 500 meters from roads, motorized trails, and high use non-motorized trails. The Upper Twisp River and Libby BMUs comprise a portion of the North Cascades Grizzly Bear Recovery Zone; and currently are comprised of 69 percent and 49 percent core area, respectively. Roads reduce habitat quality for large carnivores. Human access facilitated by roads and trails increases the potential for poaching, collisions with vehicles, and negative human interactions (Gaines et al. 2003).

Habitat for the grizzly bear and a food source (deer, plants) occur in the action area. A confirmed sighting of a grizzly bear was reported in 2015, approximately 60 miles north of proposed Project activities.

The Project has the potential to decrease the quality of habitat for grizzly bears and their ungulate prey by reducing security habitat due to timber harvest, non-commercial thinning, and prescribed fire activities. Diminished habitat function would likely last for two to five years, until regrowth occurs and the availability and quality of forage for bears and ungulate prey species increases, providing beneficial effects. Disturbance of grizzly bears or their ungulate prey could potentially occur due to human activity, noise, and smoke associated with Project activities. The likelihood of direct disturbance to grizzly bears is discountable due to their rareness, wide-ranging habitat use, and the tendency of this species to avoid areas with human activity. Disturbance of ungulate prey species is more likely. For prey species, the consequences of disturbance are primarily the physiologic costs associated with interrupted foraging and avoiding the disturbance. We expect these physiologic costs to be short term and insignificant, and therefore not likely to result in changes in survivorship or reproductive success that could influence the availability of prey for grizzly bears.

Road closure and decommissioning elements of the Project will slightly increase core areas in the Upper Twisp (0.2 percent) and Libby (0.9 percent) BMUs. There will be no net loss of core area during Project implementation.

The potential for temporary displacement and minor habitat alteration in the Project area is likely to be insignificant to the survival, reproduction or distribution of the grizzly bear.

Effects on Canada Lynx and its Critical Habitat

Canada lynx are considered vulnerable to loss of habitat connectivity from land clearing and vegetation removal, development, roads and traffic, and the presence of people and domestic

animals. Lynx in Washington State are largely restricted to western Okanogan and northern Chelan counties. Lynx are documented and have persisted in the Project area, which includes portions of the Spirit Mountain and Methow Gold Creek Lynx Analysis Units (LAUs). Lynx habitat (subalpine fir zone) comprises roughly 2,274 acres in the LAUs and is present in the western, higher elevation portions. Habitat in both LAUs is dominated by mid-successional structures, providing little habitat that would provide browse for snowshoe hare (*Lepus americanus*), the primary prey species for lynx.

The primary mechanisms by which lynx could be affected by the Project are direct disturbance and modification of habitat. Human activity, noise, and smoke in the Project area are likely to increase during Project implementation. Because lynx do not appear to be particularly sensitive to human presence (Mowat et al. 2000), and Project activities will be limited within the preferred boreal habitats of lynx, we expect their response to disturbance stimuli will be to avoid the immediate vicinity of the activities. This disturbance will be temporary and short-term in nature. In the lower elevations of the Project, outside of lynx habitat, vegetation and fuels treatments are expected to improve dry forest habitats and reduce the risk of spreading fire into lynx habitat, thus providing for connectivity across the LAUs. At the completion of Project activities, reduced road densities are expected to reduce the potential for disturbance to lynx and their prey. Due to the small footprint of activities in preferred habitat and the temporary and short term nature of disturbance, we expect potential effects to be insignificant.

Lynx Critical Habitat

A final revised critical habitat rule was published by the Service on September 12, 2014 (79 FR 54781). The rule listed the following primary constituent elements (PCEs) that comprise the physical and biological features necessary for the conservation of the species: 1) boreal forest landscapes supporting a mosaic of differing successional forest stages and containing: (a) the presence of snowshoe hares and their preferred habitat conditions, which include dense understories of young trees, shrubs or overhanging boughs that protrude above the snow, and mature multistoried stands with conifer boughs touching the snow surface; (b) winter conditions that provide and maintain deep fluffy snow for extended periods of time; (c) sites for denning that have abundant coarse woody debris, such as downed trees and root wads; and (d) matrix habitat (e.g., hardwood forest, dry forest, non-forest, or other habitat types that do not support snowshoe hares) that occurs between patches of boreal forest in close juxtaposition (at the scale of a lynx home range) such that lynx are likely to travel through such habitat while accessing patches of boreal forest within a home range.

In the Project area, boreal forest is confined to the western half of the LAUs. Critical habitat is also delineated along the northeast and southcentral ridgelines dividing the Libby watershed from watersheds to the north and south; these areas have some cold/cool forest habitat, but are generally warmer, drier forest types that currently do not provide quality lynx habitat or connections to adjacent LAUs.

The Project proposes to treat 58 acres within the boreal forest, with overstory commercial and non-commercial thinning, which is expected to result in more open habitat that will generate browse for snowshoe hares. Non-commercial thinning and pruning treatments in matrix habitat (2,074 acres) could reduce understory structure and reduce food availability for prey species.

Project design criteria that will leave 15 to 20 percent of the acreage in unthinned patches and retain complex patches, clumps and gaps in harvest units are expected to provide cover and forage for lynx prey species, especially snowshoe hares. The Service expects that these design criteria and the minor amount of boreal forest treated will result in insignificant effects that do not substantially change the ability of critical habitat to support lynx or their prey.

Conclusion

The Project BA describes effects that are either extremely unlikely to occur and/or are very small in scale. The Service agrees that implementation of the Project will result in insignificant effects to individuals and the habitats of the species analyzed above. Therefore, based on the information you provided in your BA, the Service concurs with your determinations of "may affect, not likely to adversely affect" for non-ARBO II actions on the bull trout and its critical habitat, and for all Project activities (ARBO II and non-ARBO II) on the northern spotted owl and its critical habitat, the gray wolf, the grizzly bear, and the Canada lynx and its critical habitat. Our concurrence is based on the Project being implemented as described in the BA and the Service's current understanding of the species' use of the Project area.

This concludes informal consultation pursuant to the implementing regulations of the Endangered Species Act, 50 C.F.R. § 402.13. This Project should be reanalyzed if new information reveals effects of the action that may affect listed or proposed species or designated or proposed critical habitat in a manner or to an extent not considered in this consultation; if the action is subsequently modified in a manner that causes an effect to a listed or proposed species or designated or proposed critical habitat that was not considered in this consultation; and/or, if a new species is listed or critical habitat is designated that may be affected by this Project.

Thank you for your assistance in the conservation of listed species. If you have questions or comments regarding this letter or your responsibilities under the Act, please contact Cindy Raekes at the Central Washington Field Office in Wenatchee at (509)665-3508, extension 2009, or via e-mail at cynthia_raekes@fws.gov or Sierra Franks at (509)665-3508, extension 1880 (e-mail Sierra_Franks@fws.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Eric V. Rickerson".

Eric V. Rickerson, State Supervisor
Washington Fish and Wildlife Office

cc:

USFS, Winthrop, WA (G. Shull)
USFS, Winthrop, WA (J. Rohrer)
USFS, Wenatchee, WA (E. Johnson)
USFS, Wenatchee, WA (M. Kuk)
NMFS, Ellensburg, WA (J. Yeager)

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